

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

AMPEX CORPORATION,

Plaintiff,

V.

C.A. No. 04-1373 (KAJ)

EASTMAN KODAK COMPANY,
ALTEK CORPORATION, and
CHINON INDUSTRIES, INC.,

REDACTED

Defendants.

SECOND DECLARATION OF DR. GEORGE T. LIGLER

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Redacted Filing Date: June 20, 2006
Original Filing Date: June 13, 2006

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

AMPEX CORPORATION,)	
)	
<i>Plaintiff,</i>)	
)	
v.)	C.A. No. 04-1373-KAJ
)	
EASTMAN KODAK COMPANY,)	PUBLIC VERSION
ALTEK CORPORATION, and)	
CHINON INDUSTRIES, INC.,)	
)	
<i>Defendants.</i>)	
)	

SECOND DECLARATION OF DR. GEORGE T. LIGLER

TABLE OF CONTENTS

I. INTRODUCTION	2
II. THE KODAK DIGITAL CAMERAS	3
A. Classification Of The Kodak Digital Cameras	3
B. Materials Reviewed.....	4
C. Overview Of The Operation Of The Kodak Digital Cameras	5
III. FIVE TOPICS ADDRESSED IN KODAK'S OPENING BRIEF	11
A. "Video"	12
1. "Video" literally.....	12
2. "Video" under the doctrine of equivalents.....	14
B. "Said data"	19
1. "Said data" literally.....	19
2. "Said data" under the doctrine of equivalents.....	22
C. "Direct"; "Directly"	25
1. "Direct" under Ampex's Proposed Construction	27
2. "Direct" under Kodak and Altek's Proposed Construction, Taken Literally.....	28
3. "Direct" under Kodak and Altek's Proposed Construction as Further Interpreted in Kodak's Claim Construction Brief	29
D. "Input Port"; "Output Port"	29
E. "External Source"	30

I, GEORGE T. LIGLER, declare as follows:

I. INTRODUCTION

1. I understand that this Declaration is being submitted in conjunction with Plaintiff Ampex Corporation's Brief in Opposition to Defendants' Motion for Summary Judgment of Noninfringement. Unless specifically indicated otherwise, this Declaration is made based on personal knowledge.

2. I am the same George T. Ligler who submitted in this case (1) the Initial Disclosure of Expert Testimony of Dr. George T. Ligler, dated March 24, 2006 ("my March 2006 Report"); (2) the Disclosure of Expert Rebuttal Testimony of Dr. George T. Ligler, dated April 24, 2006; and (3) the Declaration of Dr. George T. Ligler, dated May 17, 2006 ("my May 2006 Declaration").

3. I am the same George T. Ligler who submitted in the ITC Investigation (1) the Initial Expert Report of Dr. George T. Ligler, dated March 25, 2005; (2) the Supplemental Expert Report of Dr. George T. Ligler, dated May 27, 2005; (3) the Rebuttal Expert Report of Dr. George T. Ligler, dated May 11, 2005; (4) the Direct Testimony of Dr. George T. Ligler, dated July 15, 2005; and (5) the Rebuttal Testimony of Dr. George T. Ligler, dated July 28, 2005.

4. In this Declaration, Section II provides background information on my analysis of Kodak digital cameras and an overview of the operation of those cameras, taken, with minor reformatting and clarification, from my March 2006 Report. Section III discusses five topics addressed in Defendants' Opening Brief in Support of Their Motion for Summary Judgment of Noninfringement, dated May 23, 2006 ("Kodak's Opening Brief"). In general, Section III is also taken, with minor modifications, from my March 2006 Report, my May 2006 Declaration, and my deposition testimony.

Additionally, Sections III.A (“Video”), III.B (“Said data”) and III.C (“Direct”) contain discussions arising from what I understand to be new or revised positions taken by Kodak and Altek in Defendants Eastman Kodak Company and Altek Corporation’s Opening Claim Construction Brief, dated May 23, 2006 (“Kodak’s Claim Construction Brief”) and Kodak’s Opening Brief.

II. THE KODAK DIGITAL CAMERAS

A. Classification Of The Kodak Digital Cameras

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B. Materials Reviewed

8. In connection with studying the structure and operation of the Kodak digital cameras and comparing that structure and operation to the asserted claims, I have reviewed the following materials: I have reviewed the patent itself, its prosecution history, and the references cited on the face of the '121 patent. As indicated in Tab 16 to my March 2006 Report, I have further reviewed a large volume of documents that were produced by Kodak, by Altek, by Texas Instruments, and by Ampex. In particular, I have

reviewed User's Guides, Engineering Requirements Specifications ("ERSs"), camera subsystem specifications, block diagrams, schematics, and ASIC specifications relating to the Kodak digital cameras. I have personally operated a number of the Kodak digital cameras. I have reviewed test reports that have analyzed traffic on the bus that functions as the data interface to the, e.g., Secure Digital/Multi-Media Card ("SD/MMC card") for the Kodak digital cameras and have requested and reviewed the results of several follow-up analyses. I have reviewed substantial amounts of computer source code for numerous Kodak digital cameras, focusing (in conjunction with the analyses of Messrs. Stephen Gray and Kendall Dinwiddie) on a more detailed analysis of the source code for at least one camera within each of the families of cameras that I have described. I have also attended a number of technical depositions, including several depositions of Kodak corporate witnesses. I have further reviewed the transcripts of other technical depositions of Kodak and Altek fact and expert witnesses. I have also reviewed a body of literature pertaining to the field of the '121 patent and the meaning of certain terms in the asserted claims to one of ordinary skill in the art.

C. Overview Of The Operation Of The Kodak Digital Cameras

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10. The Kodak digital cameras are in a number of pertinent aspects miniaturized versions of the Ampex ESS-3 electronic still store system embodiment of the asserted claims of the '121 patent (I describe the operation of the Ampex ESS-3 system in paragraphs 87-94 of my April 24, 2006 Disclosure of Expert Rebuttal Testimony). I note that in mapping asserted claim 12 to the Kodak Type 3A, 3B, 3C, Sunny 3/4, and Sunny 6 digital cameras, I am of the view that those cameras are video still store systems as claimed.

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12. Notwithstanding these size and performance differences, in my opinion it is reasonable, for purposes of general explanation and overview, to compare the ESS-3 system to the Kodak digital cameras, because the ESS-3, in my view, contains the structural elements of the asserted claims of the '121 patent. Structural elements with the same function also are present, albeit in a much smaller mechanical form factor, in the Kodak digital cameras. The asserted claims, in my view, do not contain limitations regarding the size of the structures recited.

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III. FIVE TOPICS ADDRESSED IN KODAK'S OPENING BRIEF

24. Kodak's Opening Brief addresses five sets of limitations in one or more of the asserted claims of the '121 patent (Claims 7-8, 10-15), that Kodak maintains are not found in the Kodak digital cameras. As indicated in my March 2006 Report, I am of the view that each of the Kodak digital cameras contains all of the limitations of one or more asserted claims. The particular claims which are embodied by a given Kodak camera depend upon the family of cameras to which that camera belongs.

25. While the analysis provided in my March 2006 Report is based upon the application of Ampex's proposed claim construction, that analysis also discusses the presence of a number of limitations of the asserted claims in the Kodak digital cameras under Kodak's proposed claim construction.

26. The following subsections discuss the five sets of limitations addressed in Kodak's Opening Brief, indicating why I am of the view that the Kodak digital cameras contain those limitations, literally and/or under the doctrine of equivalents.

A. "Video"

1. "Video" literally

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28. Attached as **Exhibit 3** (AX200090-149) is a copy of a data sheet for the Analog Devices AD9991 CCD signal processor, which is incorporated into a number of the Kodak digital cameras. The AD9991 data sheet uses the term "video," for example, on Figure 33 on page 31 (Exh. 3, AX202039), which provides a block diagram of the AD9991, showing how an analog signal from a CCD is input to the AD9991, and then processed by circuitry such as a correlated double sampler. In describing this operation, the AD9991 data sheet states at page 31 that "the CDS circuit samples each CCD pixel twice to extract the video information and reject low frequency noise" (Exh. 3, AX202039). Thus, the data sheet refers to the pixel data received by the AD9991 from a CCD as video pixel data.

29. Attached as **Exhibit 4** (AX203262-73) is a copy of U.S. Patent Number 5,016,107 to Sasson (the "Sasson patent"), which further confirms my view that data that enters one of the Kodak digital cameras via a CCD is "video" data. The Sasson

patent is a Kodak patent directed to the storage of “still video data” that was captured into a digital camera using a CCD. At column 6, lines 52-56, the specification reads: “The uncompressed still video data stored in the image buffer 18 is organized in the manner of a television picture, that is, in vertical columns and horizontal rows of video data bytes (representing the corresponding picture elements)” It is clear from this patent that Mr. Sasson uses the term ‘video’ in a manner that includes digital stills and is not limited to, for example, input from an NTSC or PAL signal. The ‘still video data’ is simply organized “in the manner of a television picture.”

30. Attached as **Exhibit 5** (AX203274-83) is a copy of U.S. Patent Number 5,164,831 to Kuchta (the “Kuchta patent”), another Kodak patent, which further confirms my view that data input into one of the Kodak digital cameras using a CCD may properly be considered video data. Like the Sasson patent, the Kuchta patent is another Kodak patent also directed to the storage of images in a digital camera. Specifically, the Kuchta patent refers to “image signals comprising a video frame” at column 4, lines 22-23. These signals have been input from the disclosed camera’s CCD.

31. Attached as **Exhibit 6** (AXD024517-32) is a copy of yet another Kodak patent, U.S. Patent Number 5,440,343 to Parulski (the “Parulski patent”), which discusses “an electronic imaging system that records both motion and still video images” (Parulski patent at column 2, lines 3-4). The images have been input from the disclosed system’s CCD. This patent further confirms my view that data input into one of the Kodak digital cameras using a CCD may properly be considered video data.

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2. "Video" under the doctrine of equivalents

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37. Kodak's own patents and other documents demonstrate this fact. For example, the Parulski patent discussed above is directed to "An electronic imaging system ... that records both motion and still video images" (Exh. 6, Parulski patent at Abstract and column 2, lines 1-2). The motion video images are "medium resolution motion images at a standard frame rate" for a "motion" mode. The still video images are "high resolution still images at a much lower frame rate" to "record a still image" in digital form on flash memory. (Exh. 6, Parulski patent at column 1, lines 6-13, 55-68; column 2, lines 1-9; and column 3, lines 17-37).

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B. "Said data"

1. "Said data" literally

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2. "Said data" under the doctrine of equivalents

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4.5.1 Basic Structure of Primary Image Data

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REDACTED

C. "Direct"; "Directly"

REDACTED

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REDACTED

1. "Direct" under Ampex's Proposed Construction

REDACTED

2. **"Direct" under Kodak and Altek's Proposed Construction,
Taken Literally**

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69. As discussed in paragraphs 109-110 of my May 2006 Declaration, I have noted that Paper 30 in the prosecution history of the '121 patent includes a statement to the effect that direct transfers from the bulk memory to the RAM are made "with no other circuit therebetween." A person of ordinary skill in the art would know that the phrase "with no other circuit therebetween" could not literally be true as a technical matter and that neither the preferred embodiment of the '121 patent nor systems with which that person had worked could literally meet this phrase.

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3. **"Direct" under Kodak and Altek's Proposed Construction as
Further Interpreted in Kodak's Claim Construction Brief**

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D. **"Input Port"; "Output Port"**

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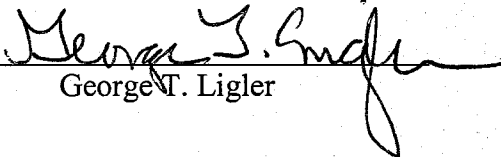
E. “External Source”

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I declare under penalty of perjury that the foregoing is true and correct.

Executed this 12th day of June, 2006, at Washington, DC.


George T. Ligler

CERTIFICATE OF SERVICE

I, the undersigned, hereby certify that on June 20, 2006, I caused to be electronically filed the foregoing with the Clerk of the Court using CM/ECF, which will send notification of such filing(s) to the following:

Collins J. Seitz, Jr., Esquire
Jaclyn Mason, Esquire
Connolly, Bove, Lodge & Hutz LLP

and that I caused copies to be served upon the following in the manner indicated:

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